TAMPA-ST. PETE AFCEA LUNCHEON

Providing Global CyberDominance to Joint/Combined Commanders

2010-08-03T15:45:00Z

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CHIEF INFORMATION OFFICER (CIO)
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AMERICA'S ARMY: THE STRENGTH OF THE NATION
ARMY STRONG

Then & Now

CONUS-Based & Expeditionary

Transforming Army LandWarNet

- Army Enterprise Architecture

- CSA "Unity of Effort" Tasking

- "Big 4" & Lines of Effort

Conclusions

Transmission Speeds…

1860: 3 words/minute (via Wig-Wags)

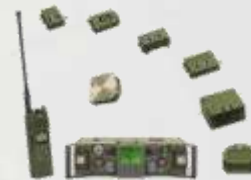**2010: Bell Labs multiplexed 155 chan, each of 100 Gbps over a single strand of fiber = _15.5 Tbps total_**

BG Albert J Myer
1st Chief of Signal

Tactical Radios…

2000: 11 different types ~365,000 total

2010: 20 different types – _919,052 total_

CENTCOM Bandwidth…

Desert Shield/Desert Storm & prior to OEF:

DESERT STORM 47 Mbps

12 Sep 01 46 Mbps

~50X Increase from 12 Sep 01

ENDURING FREEDOM & IRAQI FREEDOM (March 2003) 2.3 Gbps Combined

~4X Increase from March 03

CURRENT OEF & OIF Estimates (APR '10) ~9.6 Gbps Combined
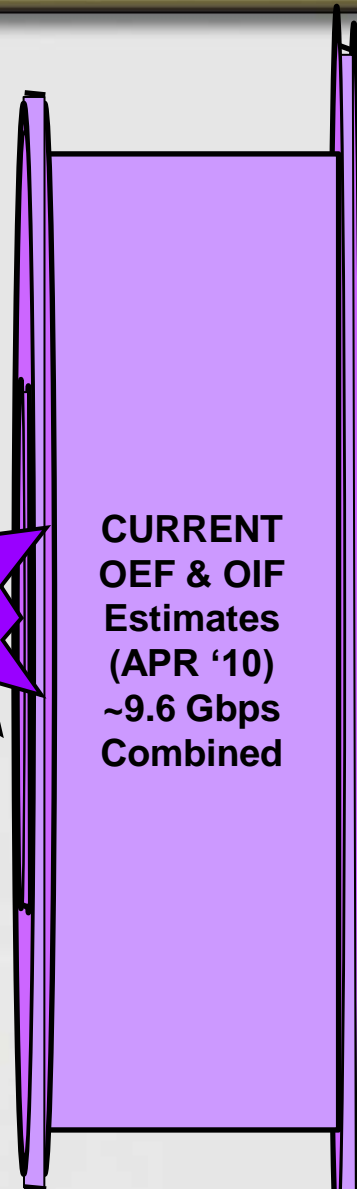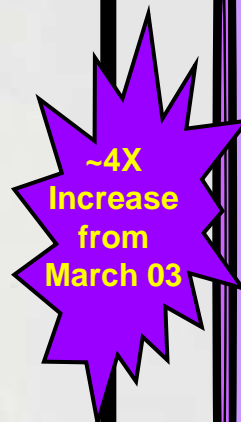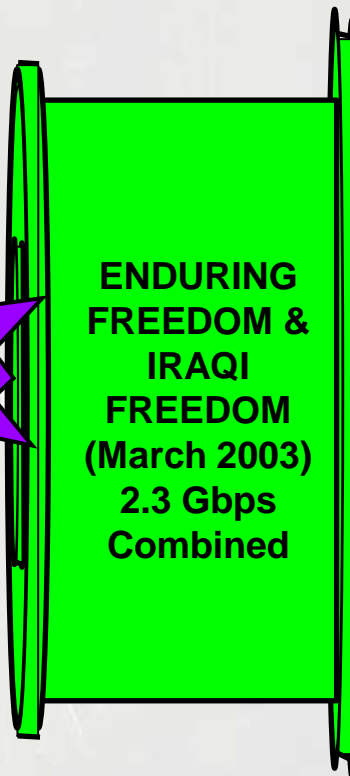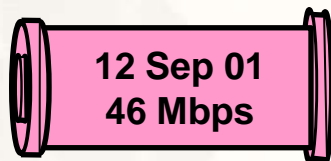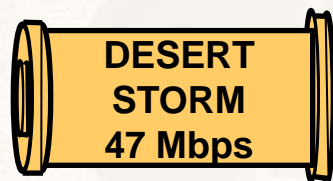
OEF/OIF & Today:

Internet…

	2000	2010
# URLs	130 Million	1 Trillion
# Blogs	What's that?	133 Million
# Tweets	Huh?	9.7 Billion

Army's relevance to a JFC defined by our **_responsiveness_**

Responsiveness dependent upon **_expeditionary capabilities_**

Many expeditionary capabilities are **_NETWORK_** dependent

"We're building an Army that is a versatile mix of _tailorable_ and _networked_ organizations operating on a _rotational basis_ … to provide a _sustained flow_ of trained and ready forces for _full spectrum operations_ … and to hedge against _unexpected contingencies_ … at a tempo that is predictable and sustainable for our _all-volunteer force_."   – Chief of Staff Army, 6 Apr 2010

Army Enterprise Architecture

At Home/TDY

Global Defense Network

Satellite Transport

Internet

Area Processing Center

A-GNOSC

Teleport/STEP FRHN

Applications Services & Data

At Post/Camp/ Station

TNOSC

TNOSC

Tactical IPN

Deployed Tactical Network

Installation Processing Node (IPN)

Logical Extension of APC

Sensors

JTF (Corps/ESB)

Reset (Phases 0-1) ⟷ **Transition** ⟷ **Deploy (Phases 2-5)**

Always Accessible by the Soldier

2010-07-13T11:30:00

8

- UNITY OF EFFORT
- ○ "BIG 5" OF 21st Cent
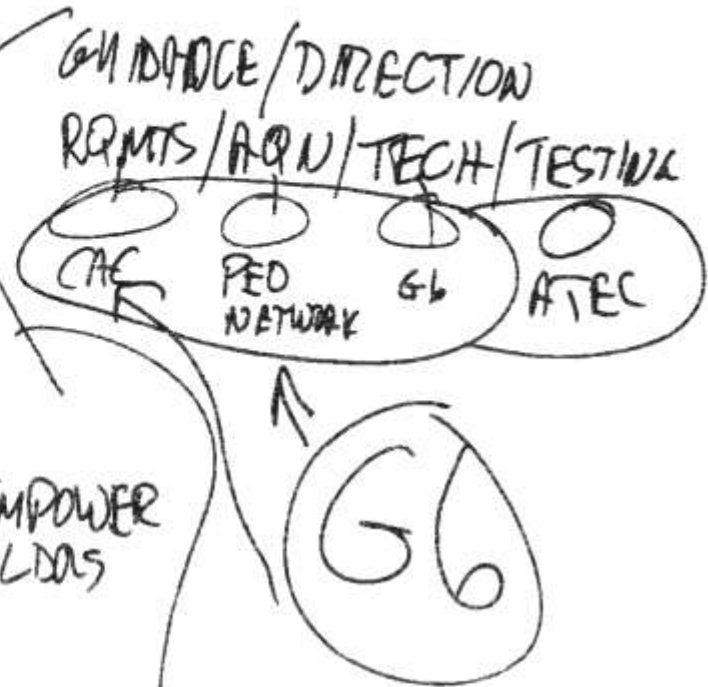- ○ WHAT TRYING TO ACCOMP w/ NETWORK? CONCEPT OF BC/EMPOWER LDRS
- LOWER EXPECTATIONS
- "TO CREATE CONTEXT"
- SIMULATIONS FOR TESTING / NETWORK + BC APPS

- FLEXIBLE / ITERATIVE
- BASELINE ASSESSMENT
- CYBER

GUIDANCE/DIRECTION
RQMTS/AQN/TECH/TESTING

CAC   PEO
       NETWORK   G6   ATEC

G6

GNEC 'Big 4'

Demonstrate Operational Capabilities

- **Early Collaboration.** Maintain continuous access to data resources

- **Fight Upon Arrival.** Rapidly deploy to austere environment, prepared to fight upon arrival with situational awareness

- **Enterprise Battle Command.** Command & control widely-dispersed forces thru NSC-provisioned warfighting services

75th Fires Brigade

> *Deploy a BCT-sized unit leveraging enterprise capabilities throughout all phases of its deployment in FY11*

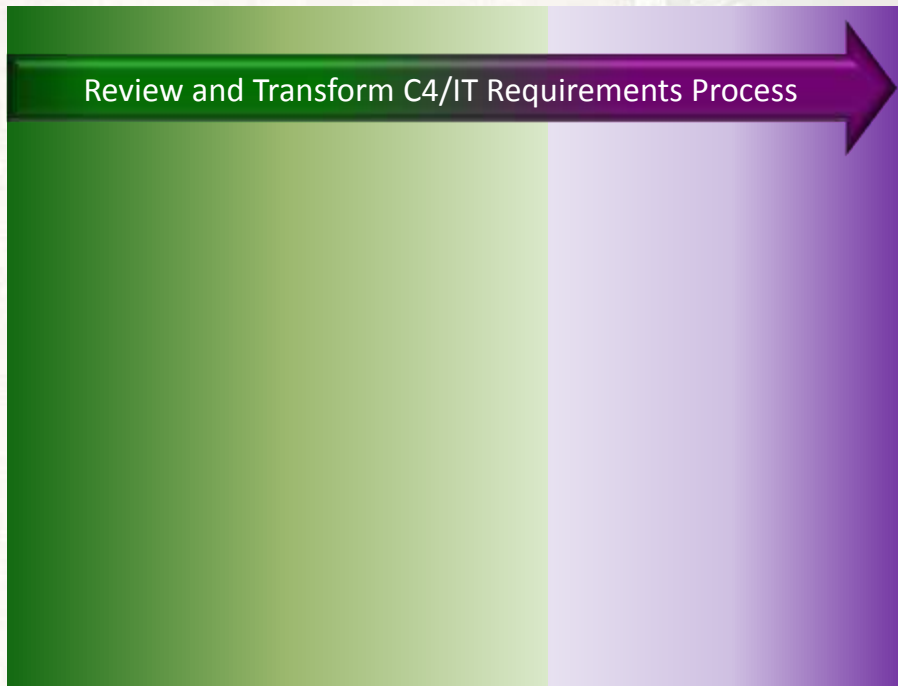> *Deploy all BCT-sized units relying on enterprise capabilities through all operational phases NLT FY12*

– GEN George Casey, Chief of Staff Army

CSA Tasker – Unify the Network

Review and Transform C4/IT Requirements Process →

GNEC 'Big 4' →

C4/IT GOSC →

Commercial Cellular & Tactical Communications Data Rate Evolution
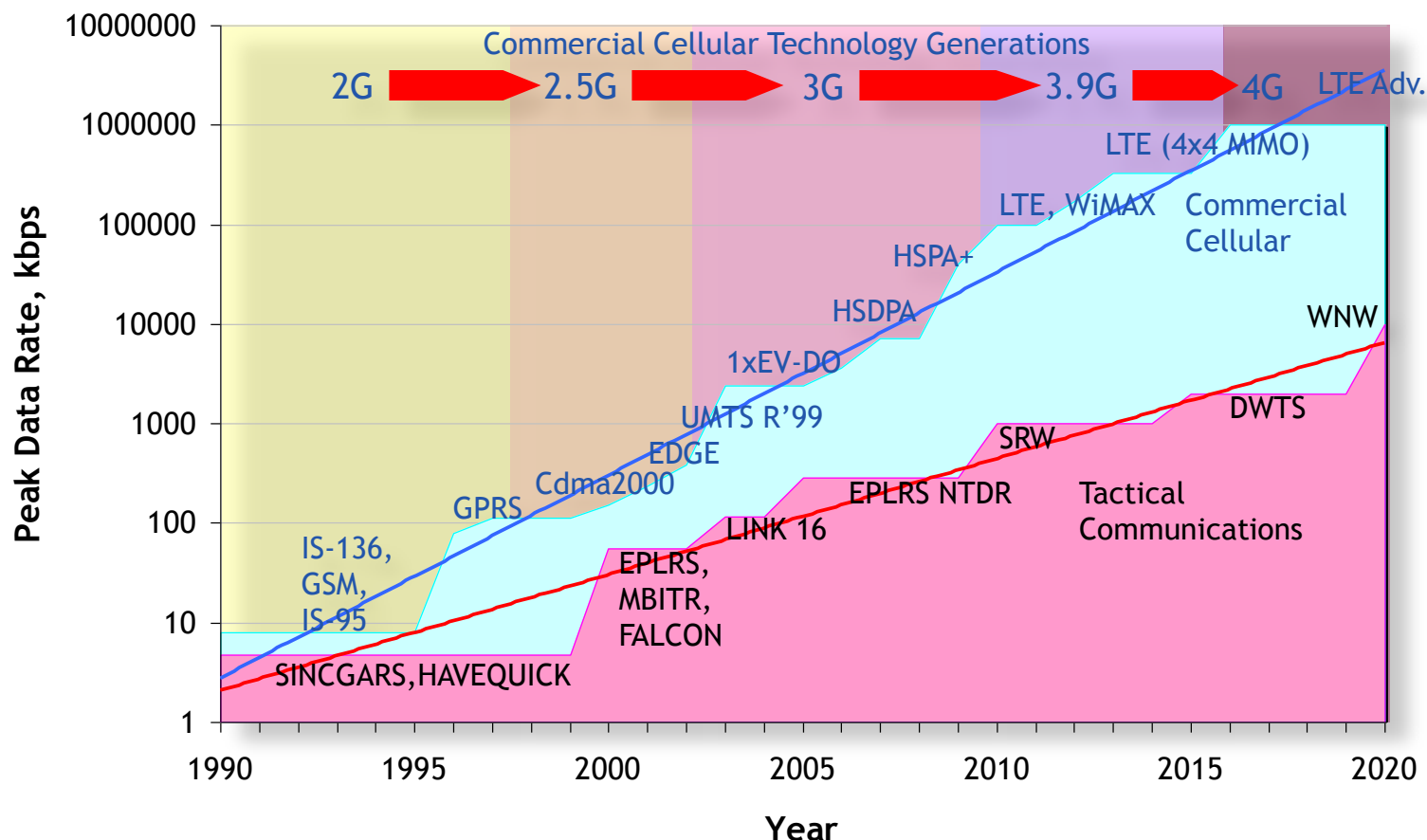
The Commercial Marketplace is Driving Innovation at an Accelerated Pace vs. the DoD market – DoD should Leverage this Innovation More Effectively

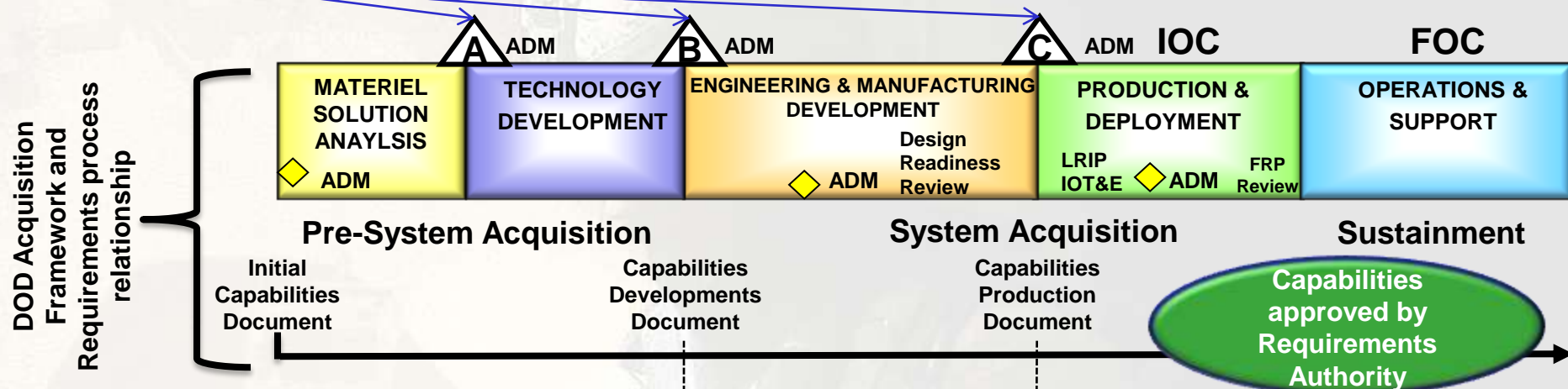**JCIDS: User needs & Technology Opportunities**

DOD Acquisition Framework and Requirements process relationship

A — ADM
B — ADM
C — ADM — **IOC**   **FOC**

| MATERIEL SOLUTION ANAYLSIS ◇ ADM | TECHNOLOGY DEVELOPMENT | ENGINEERING & MANUFACTURING DEVELOPMENT — Design Readiness Review ◇ ADM | PRODUCTION & DEPLOYMENT — LRIP IOT&E ◇ ADM FRP Review | OPERATIONS & SUPPORT |

Pre-System Acquisition   **System Acquisition**   **Sustainment**

Initial Capabilities Document

Capabilities Developments Document

Capabilities Production Document

Capabilities approved by Requirements Authority

All DOD 5000.2 Compliant…

Our Current Approach – 'Building Comms Like A Tank'

2 yrs   **5 yrs**

USSOCOM Approach – Closing the Gap; Rapid Agility

Employing Industry Standards To Rapidly Deliver C4 Capabilities Today – _Not_ Tomorrow

JCSE Approach – Standardized Architecture; As 'Needed' TECH Insertion

CSA Tasker – Unify the Network

Review and Transform C4/IT Requirements Process

Transform S/W apps development and deployment

GNEC 'Big 4'

C4/IT GOSC

Army (System Focus)

MTS

GPS

GPS

FBCB2

Fires

Intel

Log

Air

Maneuver

Industry (Applications Focus)

Launch Date: Jul 11, 2008
Available Applications: 225,000
Devices: 90,000,000
Downloads: 5,000,000,000+

Launch Date: Oct 22, 2008
Available Applications: 90,000
Devices: 13,000,000
Downloads: ~1,000,000,000

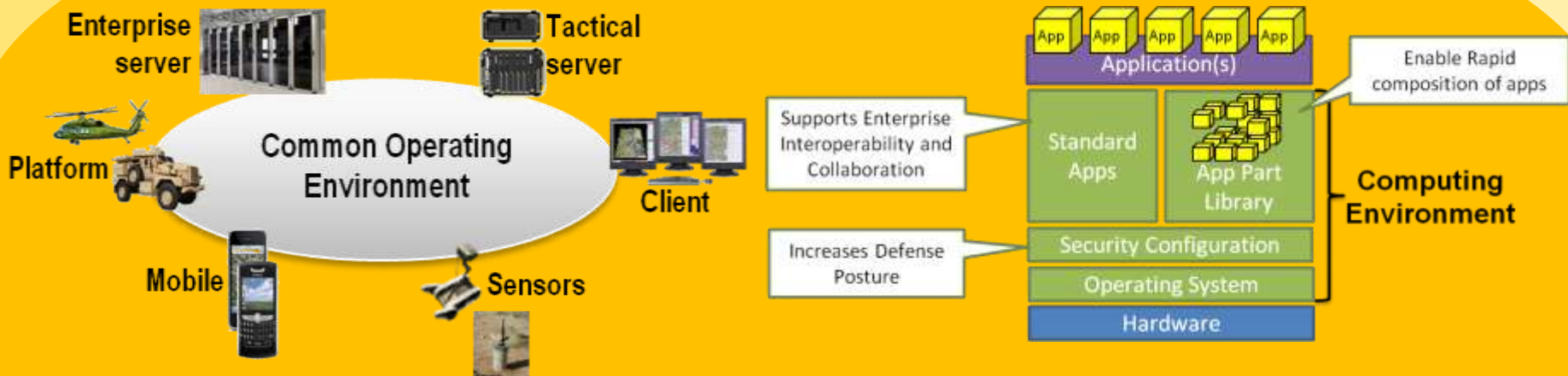*Radical Change Is Needed – Architecture Must Separate Data & Apps*

Employ Industry Best Practices

Streamlined Processes
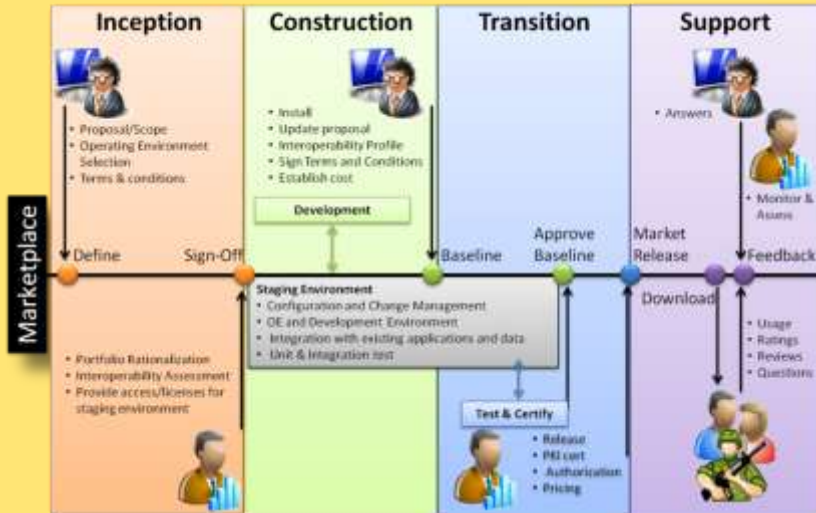
Application Marketplace

Common Operating Environment

On-Going Pilots

What We Have Done

APPS FOR THE ARMY

Common Operating Environment Architecture

Completed App Submissions	53
Information Access	14
Training	8
Mission-Specific	9
MWR	6
Location-Aware	6
Warfighting	3
Career/Personnel Management	2
Other	5

Driving Future of Battle Command

Preparing the Enterprise for Change

What We are Doing

Enterprise server

Tactical server

Platform

Common Operating Environment

Client

Mobile

Sensors

Pilots:

Soldier Fitness Mobile App

Tactical Server COE & Development Tools

Army Intel System Interoperability Testing & Certification

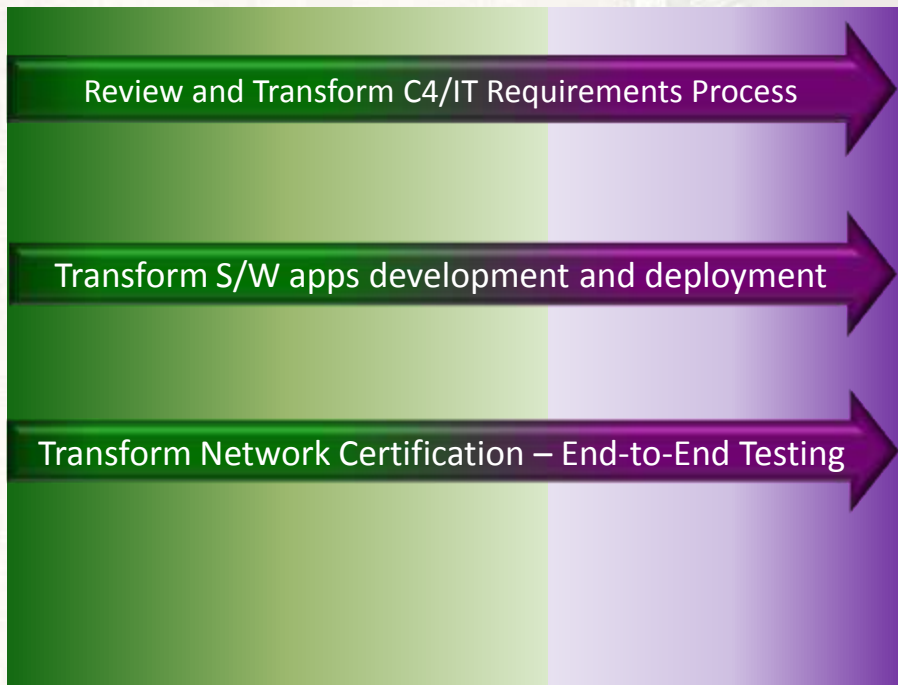*Where is the $$*

CSA Tasker – Unify the Network

Review and Transform C4/IT Requirements Process

Transform S/W apps development and deployment

Transform Network Certification – End-to-End Testing

GNEC 'Big 4'

C4/IT GOSC

IP routers connect dissimilar networks…

…end-to-end interoperability

DISN

JTRS/WIN-T

SINCGARS

EPLRS
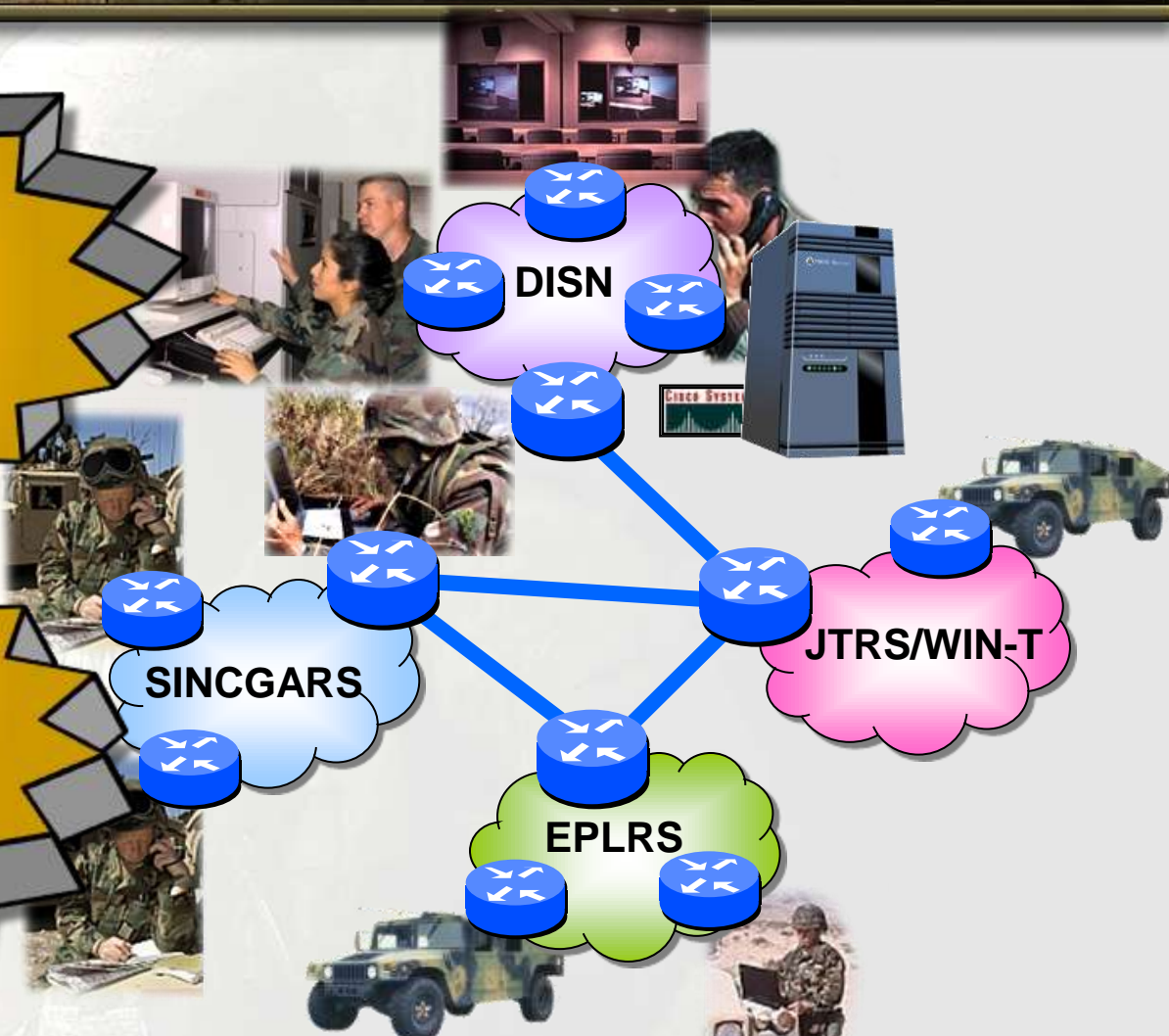
Internet Protocol provides a _seamless convergence layer_ for all applications and networks

What We Have Done
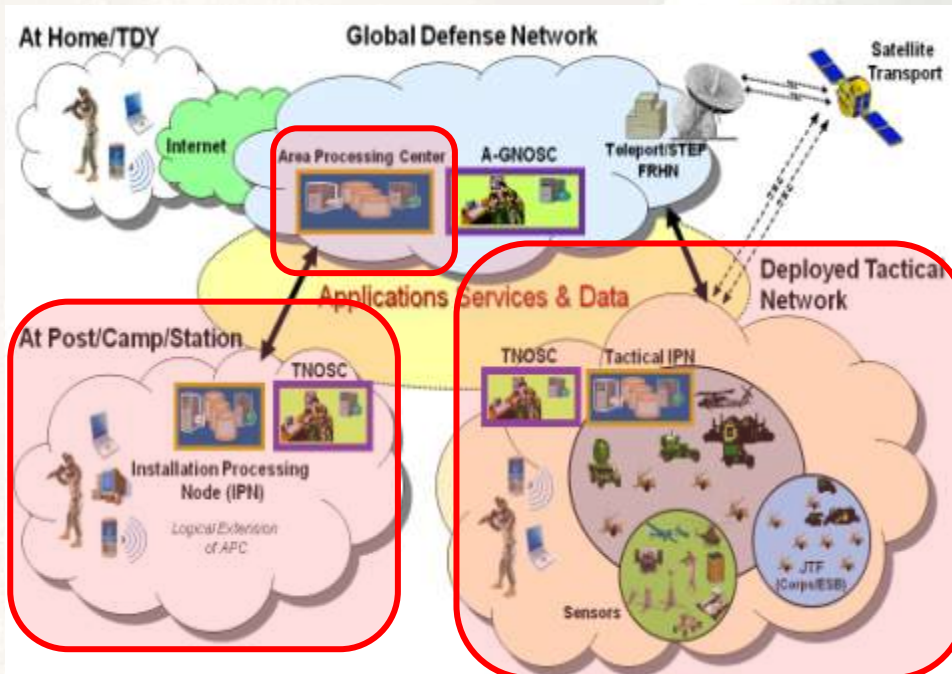
- *Tactical Network Architecture*

- *Common Operating Environment Architecture (Draft)*

- *Area Processing Center Architecture*

- *"To-Be" Architecture available at:*
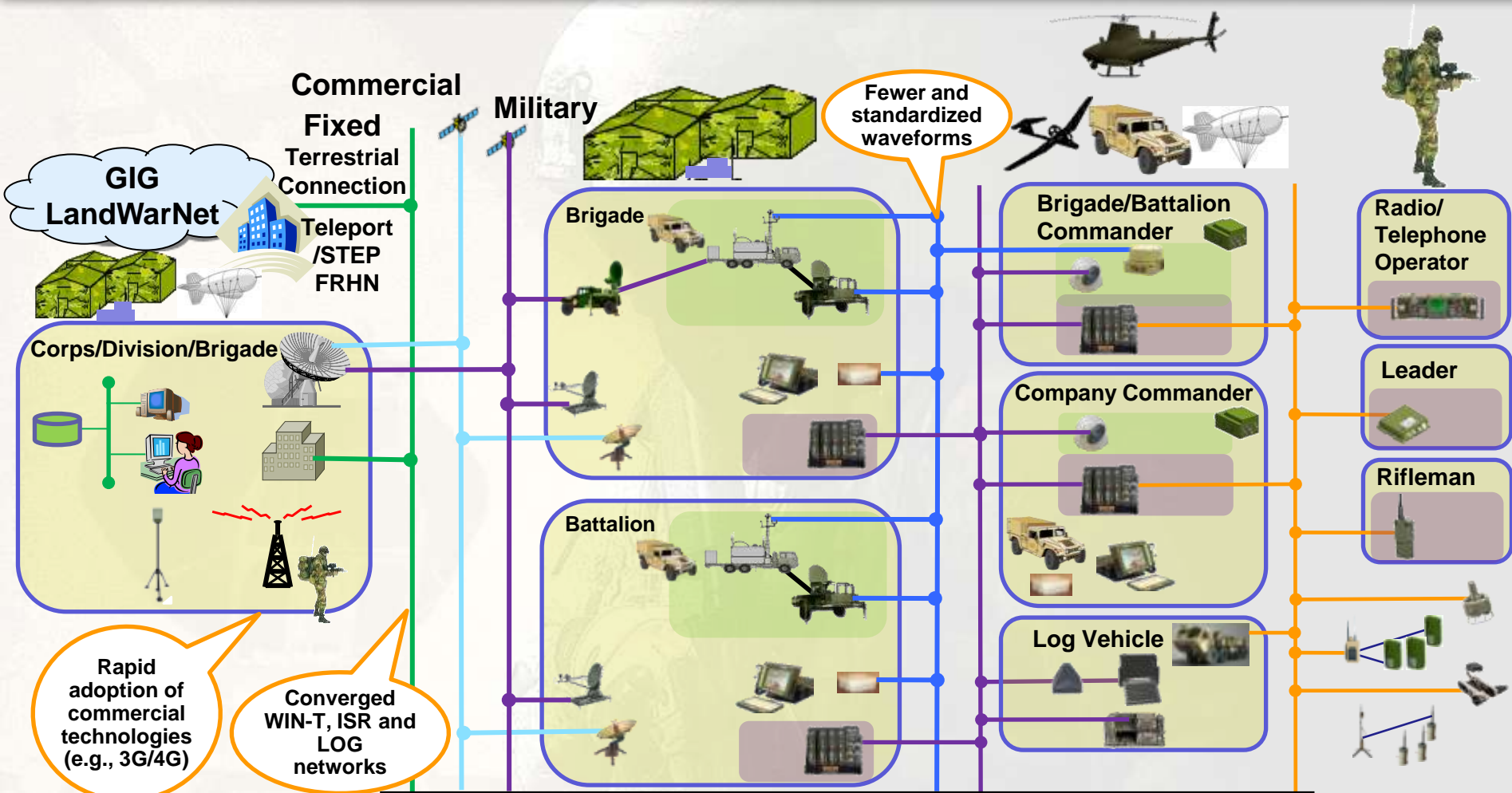

http://ciog6.army.mil/ToBeArchitecture.aspx
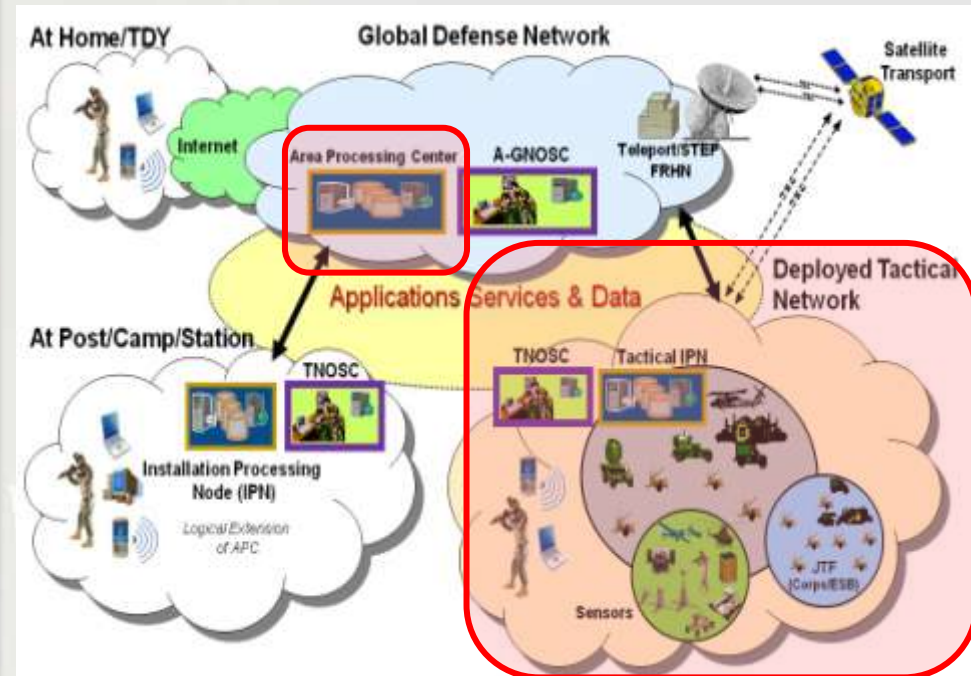
What We are Doing

- *Common Operating Environment Architecture (Final)*

- *Installation (Post/Camp/Station) Architecture*

- *Information Assurance Architecture*

- *Geo-spatial Architecture*

Army Network Enterprise Alignment for POM 13-17

Commercial Fixed
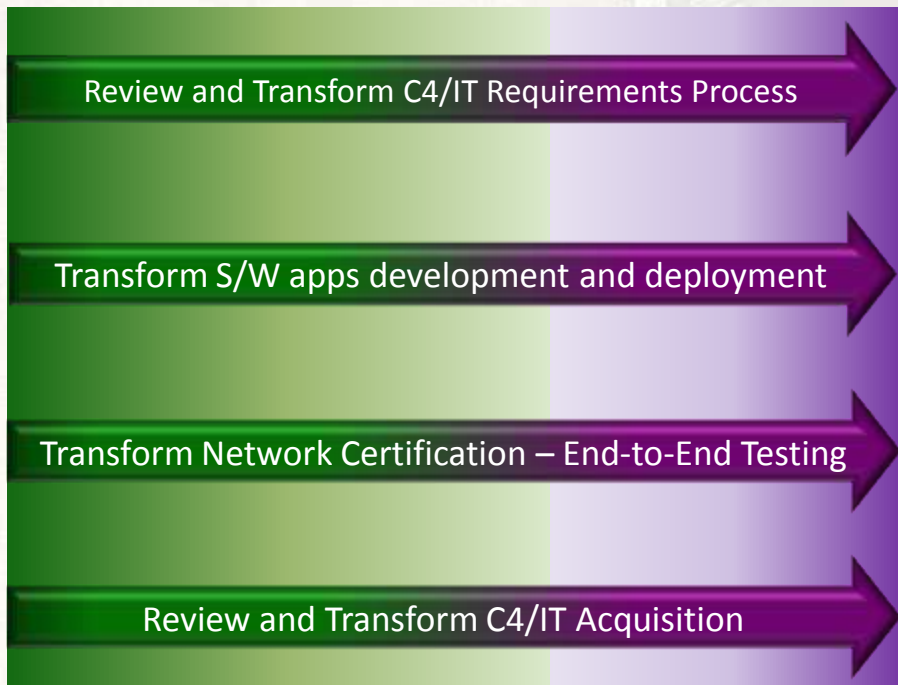Terrestrial Connection
Teleport /STEP FRHN

Military

GIG LandWarNet

Fewer and standardized waveforms

Corps/Division/Brigade

Brigade

Battalion

Brigade/Battalion Commander

Company Commander

Log Vehicle

Radio/ Telephone Operator

Leader

Rifleman

Rapid adoption of commercial technologies (e.g., 3G/4G)

Converged WIN-T, ISR and LOG networks

All systems riding a common, interoperable EoIP Backbone establishing a 'plug & play' environment

CSA Tasker – Unify the Network

Review and Transform C4/IT Requirements Process →

Transform S/W apps development and deployment →

Transform Network Certification – End-to-End Testing →

Review and Transform C4/IT Acquisition →

GNEC 'Big 4' →

C4/IT GOSC →

VCSA Memo

Establish Governance Over The Deployment of the Network

CSA Tasker – Unify the Network

Review and Transform C4/IT Requirements Process

Transform S/W apps development and deployment
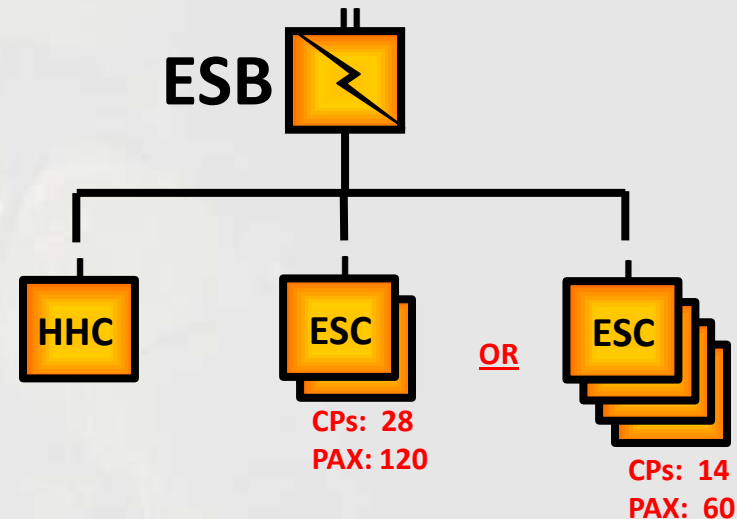
Transform Network Certification – End-to-End Testing

Review and Transform C4/IT Acquisition

GNEC 'Big 4'

C4/IT GOSC

'End State' Architecture to Guide Investment

Our End State
Influence POM 13-17….

ESB

HHC   **ESC**   **OR**   **ESC**

CPs: 28
PAX: 120

CPs: 14
PAX: 60

and Re-Balance Signal Forces thru the FAA

Army CONUS-Based Strategy
…transforming to an Expeditionary Army

Army Enterprise Architecture
…connect Users with Apps & Data at all locations

Unity of Effort – Warfighter Support
…transforming Our Army & the Signal Regiment

Shared Situational Awareness
…Bottom Line for the Joint Warfighter